Kobsap Phonchareon 2012: Residues of Oxytetracycline and Sulfadimethoxine Mix with Trimethoprim in Culture of Pacific White Shrimp (*Litopenaeus vannamei*). Master of Science (Fisheries Science), Major Field: Fisheries Science, Department of Fishery Biology. Thesis Advisor: Associate Professor Chalor Limsuwan, Ph.D. 95 pages.

The aim of this study was to evaluate the efficacy of oxytetracycline and sulfadimethoxine mixed with trimethoprim at a ratio 5:1 for the inhibition and prevention of the disease in the white shrimp (*Litopenaeus vannamei*). Eight isolates of bacteria, *V.parahaemolyticus* (ABRCVP 01), *V. mimicus* (ABRCVM 01), *V. cholera* (ABRCVC 01), *V. alganolyticus* (ABRCVA 01), *V. vulnificus* (ABRCVV 01), *V. vulnificus* (ABRCVV 02), *V. fulvialis* (ABRCVF 01) and *V. fulvialis* (ABRCVF 02) were isolated from the moribund shrimp that showed signs of white feces disease. It was found that 8 isolates responded to drugs applied by Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC). Results indicated that the MIC and the MBC value of Oxytetracycline to 8 isolates of *Vibrio* spp. were 2 ppm and 3 ppm, respectively. While Sulfadimethoxine mixed with Trimethoprim showed the MIC and the MBC value of 90 – 139 ppm and 92 - 140 ppm, respectively.

A feeding trial the shrimp of *Litopenaeus vannamei* was conducted to determine the residual effects of Oxytetracycline and Sulfaldimethoxine mixed with Trimethoprim at a ratio 5:1. Both Oxytetracycline and Sulfaldimethoxine mixed with Trimethoprim were administered in feed at the ratio of 5 gm. / 1 kg. of feed. The experiment was divided in 3 sets. Where the shrimp feed 3 times of set 1 received only commercials pelleted feed, but shrimp of second and third set of experiment received the feed mixed with the drug in above mentioned ratio with little (only superficial layer of water) and full water exchange respectively. The shrimp of experiment 2 to 3 were fed the mixed (with drug) diet for seven days consecutively after which they fed with commercial pelleted feed. And the sampling was done from all experimental set up after seven days of feeding on 1^{st}, 5^{th}, 10^{th}, 15^{th}, and 25^{th} day to observe the residual effects by analyzing the samples through HPLC . The control did not show any residual accumulation of drugs. The experimental set 2 , treated with Sulfadimethoxine mixed with Trimethoprim with superficial exchange of water exhibited the residual acumination 0.037, 0.004, 0.004, 0.003 and 0.001 ppm. respectively while the experimental set 3 with full water exchange showed the acumination 0.014, 0.014, 0.009, 0.008 and 0.005 ppm. respectively. It is evident from the results that the residual acumination of the drug remained after the cessations of drug treatment. However the amounts gradually decreased but still a detectable amount was found even after cessations of drug for 25 days.

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